

MAGNETIC DECLINATION
CALCULATED ON:
01-16-17



SITE NAME:
GRAFTON
US-MA-5025
104 CREEPER HILL ROAD
GRAFTON, MASSACHUSETTS 01536

**NEW MONOPOLE AND GROUND
EQUIPMENT WITHIN THE
PROPOSED LEASE AREA**



AREA MAP

GRAFTON, MASSACHUSETTS
SCALE: 1" = 1000'-0"

DIRECTIONS:

HEADING FROM BOSTON AIRPORT: HEAD NORTHWEST TOWARD E BOSTON GREENWAY. TURN RIGHT ONTO PORTER ST. TURN RIGHT AT THE 1ST CROSS STREET ONTO BREMEN ST. SLIGHT RIGHT ONTO BENNINGTON ST. TURN RIGHT ONTO NEPTUNE RD. TURN RIGHT ONTO THE ROUTE 1 S RAMP TO LOGAN AIRPORT/6/BOSTON. MERGE ONTO MA-1A S/STATE HWY 1A S. CONTINUE ONTO I-90 W. KEEP LEFT TO STAY ON I-90 W. KEEP LEFT TO STAY ON I-90 W. TAKE EXIT 11 TOWARD MASSACHUSETTS 122/MILLBURY/WORCESTER. TURN LEFT ONTO MA-122 N/GRAFTON ST. TURN RIGHT ONTO THE US-20 W RAMP. MERGE ONTO US-20 E/SW CUTOFF. TURN RIGHT ONTO WESTBOROUGH ST. CONTINUE ONTO CREEPER HILL RD. THE EXISTING DIRT ACCESS ROAD WILL BE ON THE LEFT.

NOTE TO GENERAL CONTRACTOR

NO WORK IS TO BE PERFORMED ON THIS SITE WITHOUT REVIEW OF THE APPROVED STRUCTURAL ANALYSIS. IF ANY DISCREPANCIES ARE FOUND THE GENERAL CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING. AT NO TIME WILL ANY ADDITIONAL ANTENNAS BE INSTALLED WITHOUT WRITTEN CONSENT FROM TOWER ENGINEER.

STRUCTURAL NOTE:

ADVANTAGE ENGINEERS IS NOT RESPONSIBLE FOR DESIGN OR STRUCTURAL CERTIFICATION OF NEW ANTENNA MOUNTS REQUIRED FOR THE INSTALLATION OF THE PROPOSED EQUIPMENT ASSOCIATED WITH THIS PROJECT. PLEASE REFER TO THE STRUCTURAL ANALYSIS COMPLETED BY OTHERS FOR ALL STRUCTURAL INFORMATION RELATED TO THE ANTENNA MOUNTS.



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SCHEDULE OF REVISIONS

REV NO.	DATE	DRAFTER	DESCRIPTION OF CHANGES
8	01-23-17	LCW	FINAL
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4	09-28-16	LCW	FINAL

DRAWN BY:	LCW
CHECKED BY:	TA
SCALE:	NOTED
JOB NO:	M880140.00

DRAWING TITLE:
**TITLE
SHEET**

DRAWING SHEET:
T-1

SHEET NUMBER:
1 OF 9

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SITE ADDRESS:
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MASSACHUSETTS 01536
ASSESSOR'S MAP:
MAP 17
LOT 08A
JURISDICTION:
TOWN OF GRAFTON
WORCESTER COUNTY, MA**



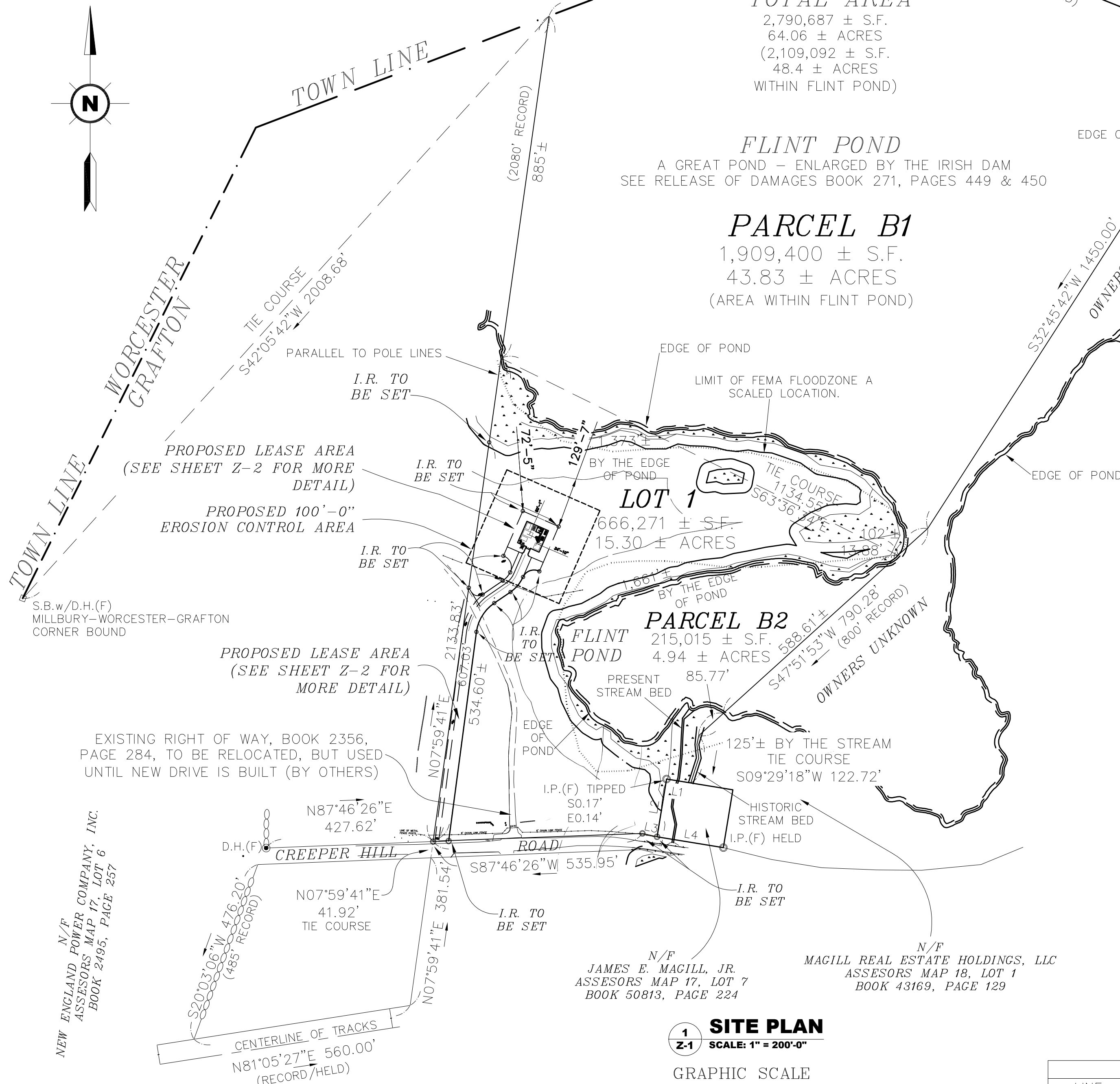
ANDREW M. MILLER, P.E.
MASSACHUSETTS PROFESSIONAL ENGINEER
LICENSE # 51675

NOTES:

- SUBJECT PARCEL IS SHOWN AS ASSESSORS MAP 17, LOT 08A. RECORD TITLE FROM BOOK 49579, PAGE 111.
- UTILITY LOCATIONS DEPICTED ON THIS PLAN, BOTH ABOVE- AND BELOW-GROUND, ARE BASED UPON DIRECT FIELD OBSERVATIONS MADE BY METROWEST ENGINEERING, INC. PERSONNEL DURING A FIELD SURVEY, RECORD PLAN LOCATIONS, OR DIGSAFE PAINT-INDICATORS. METROWEST ENGINEERING, INC. DOES NOT WARRANT THAT ALL UTILITIES ARE SHOWN OR THAT UTILITIES THAT ARE DEPICTED ARE SHOWN IN THE CORRECT LOCATION, OR WITH THE PROPER MATERIAL DESIGNATION. METROWEST ENGINEERING, INC. DOES NOT WARRANT OR PROVIDE AN EXPRESS OR IMPLIED WARRANTY THAT ALL SUBSURFACE IMPROVEMENTS ARE SHOWN OR ARE SHOWN CORRECTLY, INCLUDING, BUT NOT LIMITED TO, UTILITIES, UNDERGROUND VAULTS, UNDERGROUND TANKS OR CHAMBERS, BUNKERS, DUCT BANKS, AND/OR OTHER MAN-MADE IMPROVEMENTS THAT LIE BENEATH THE GROUND SURFACE AT THE TIME OF THE SURVEY.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR ESTABLISHING EXISTING LOCATIONS OF ALL SUB-SURFACE UTILITIES AND MAN-MADE IMPROVEMENTS AND FOR THE REQUIREMENTS TO REPLACE, RELOCATE OR REPAIR EXISTING UTILITIES IN THE EVENT OF DAMAGE OCCURRING DURING CONSTRUCTION. MWE IS NOT RESPONSIBLE OR LIABLE FOR DELAYS OR COSTS ASSOCIATED WITH REMOVING/REPLACING/RELOCATING OF EXISTING UTILITIES REGARDLESS OF WHETHER SAID UTILITIES ARE ACCURATELY DEPICTED ON THIS SURVEY.
- THE PROPERTY DESCRIBED ON THIS SURVEY LIES PARTIALLY WITHIN A SPECIAL FLOOD HAZARD AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY; THE PROPERTY LIES WITHIN ZONE "X" OF THE FLOOD INSURANCE RATE MAP IDENTIFIED AS MAP NUMBER 25027C0826E BEARING AN EFFECTIVE DATE OF JULY 4, 2011.
- THE PROPERTY IS SUBJECT TO A LEASE AGREEMENT RECORDED IN BOOK 55025, PAGE 301.

ZONING:

OLI- OFFICE/LIGHT INDUSTRIAL
ANY NON-RESIDENTIAL USE
MINIMUM AREA= 40,000 SQUARE FEET
MAXIMUM FRONTAGE = 120 FEET
SETBACKS:
FRONT YARD= 40 FEET
SIDE YARD = 35 FEET
REAR YARD= 35 FEET
LOT COVERAGE= 40%



NOTE:
MINIMAL GRADING REQUIRED FOR
PROPOSED IMPROVEMENTS

LEGEND

A.L.	AREA LIGHT	☆	LIGHTPOST
BIT. CONC.	BITUMINOUS CONCRETE PAVEMENT	L.B.	LOADING BAY
C.L.F.	CHAIN LINK FENCE	MB	MAILBOX
CONC.	CONCRETE	M.S.	METAL STEPS
C.W.	CONCRETE WALK	Ⓢ	NUMBER OF PARKING SPACES
CMP	CORRUGATED METAL PIPE	Ⓢ	OBSERVATION WELL
C.O.	CLEAN OUT	OHW	OVERHEAD WIRES
C.P.	CONCRETE PAD	PIV	PAVEMENT EDGE
C.S.	CONCRETE STEPS	POST	POST INDICATOR VALVE
□	CURB	S	SET
□	DRAIN CATCH BASIN	Ⓢ	SEWER LINE
—	DRAIN LINE	Ⓢ	SEWER MANHOLE
Ⓢ	DRAIN MANHOLE	SIAM	SIAMESE CONNECTION (FIRE)
Ⓢ	DRAIN OUTFALL	↑	SIGN
D.H.	DRILL HOLE	S.B.	STONE BOUND
DI	DUCTILE IRON PIPE	T.B.D.	TO BE DETERMINED
E.BOX.	ELECTRIC BOX	T.BOX	TELEPHONE BOX
E	ELECTRIC LINE	—	TELEPHONE MANHOLE
E.T.	ELECTRIC TRANSFORMER	—	TELEPHONE LINE
B	POSSIBLE ENCROACHMENT NOTE	—	TOP OF BANK FLAG
—	F.E.M.A. FLOODPLAIN	TOB#	UTILITY MANHOLE
—	FENCE	TOB#	UTILITY POLE
F.P.	FLAG POLE	W	WATER GATE
SFM	FORCE MAIN(SEWER)	W	WATER LINE
(F)	FOUND	W	WITH
—	GAS LINE	W.F.	WOOD FRAMED
—	GAS GATE	W.F.	WETLAND BORDER FLAG
—	GUARD POST	W.F.	WETLAND BORDER
—	HANDICAP PARKING SPACE	W.F.	WETLAND BUFFER
—	HYDRANT	W.F.	ZONING SETBACK LINE
—	IRON PIPE	W.F.	
—	IRON ROD	W.F.	

REFERENCES

DEEDS:	BOOK	PAGE	PLANS:	PLAN BOOK	PLAN	PLAN
BOOK 55025,	PAGE 301		PLAN BOOK 870,	PLAN 122		
BOOK 49579,	PAGE 111		PLAN BOOK 868,	PLAN 2		
BOOK 16752,	PAGE 371		PLAN BOOK 751,	PLAN 7		
BOOK 3808,	PAGE 168		PLAN BOOK 319,	PLAN 18		
BOOK 2893,	PAGE 110		PLAN BOOK 228,	PLAN 94		
BOOK 2495,	PAGE 257		PLAN BOOK 557,	PLAN 18		
BOOK 2472,	PAGE 110		PLAN BOOK 555,	PLAN 94		
BOOK 2356,	PAGE 284		PLAN BOOK 57,	PLAN 18		
BOOK 1891,	PAGE 215		PLAN BOOK 47,	PLAN 22		
BOOK 1689,	PAGE 18		BOOK 2495,	PAGE 257		
BOOK 271,	PAGE 450					
BOOK 271,	PAGE 449					
BOOK 246,	PAGE 342					
BOOK 70,	PAGE 574					

BULK REQUIREMENTS

DESCRIPTION	REQUIRED	EXISTING	PROPOSED
MIN. AREA:	40,000 S.F.	662,112 S.F.	NO CHANGE
MIN. LOT FRONTAGE:	120 FT	574.48 FT	NO CHANGE
MIN. FRONT YARD:	40 FT	N/A	702.25 FT
MIN. SIDE YARD:	35 FT	N/A	226.5 FT
MIN. REAR YARD:	35 FT	N/A	209.75 FT
MAX. BUILDING COVERAGE:	40%	N/A	>1%
MAX. BUILDING HEIGHT:	35 FT	N/A	NO CHANGE
TOTAL PAVED AREA:	?	?	381 S.F.
TOTAL GRAVEL AREA:	?	?	± 12,337 S.F.

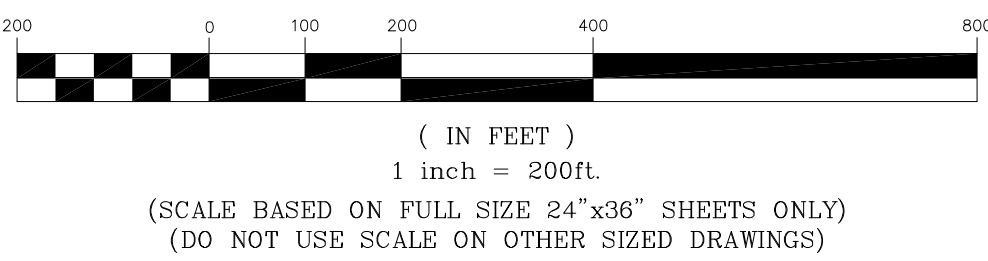
*EXISTING NON-CONFORMING CONDITION
** VARIANCE REQUESTED



Know what's below.
Call before you dig.

PROTECT YOURSELF, GIVE THREE
WORKING DAYS NOTICE
THIS DRAWING DOES NOT INCLUDE NECESSARY
COMPONENTS FOR CONSTRUCTION SAFETY. ALL
CONSTRUCTION MUST BE DONE IN COMPLIANCE
WITH THE OCCUPATIONAL SAFETY AND HEALTH
ACT OF 1970 AND ALL RULES AND REGULATIONS
THERE TO APPURTENANT.

LINE	LENGTH	BEARING
L1	63.00'	N80°43'26"W
L2	150.00'	S09°16'34"W
L3	38.53'	N77°03'34"W
L4	172.00'	S80°43'26"E



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5	10-03-16	LCW	FINAL ZDs
4	09-28-16	LCW	FINAL

DRAWN BY:	LCW
CHECKED BY:	TA
SCALE:	NOTED
JOB NO:	M880140.00

DRAWING TITLE:
**EXPANDED
SITE
PLAN**

DRAWING SHEET:
Z-1

SHEET NUMBER:
2 OF 9

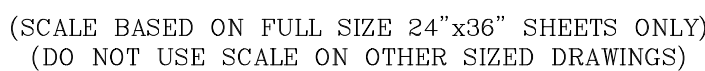
SITE INFORMATION:
SITE NAME:
**US-MA-5025
GRAFTON**
SITE ADDRESS:
**104 CREEPER HILL ROAD
GRAFTON,
MASSACHUSETTS 01536**
ASSESSOR'S MAP:
**MAP 17
LOT 08A**
JURISDICTION:
**TOWN OF GRAFTON
WORCESTER COUNTY, MA**



ANDREW M. MILLER, P.E.
MASSACHUSETTS PROFESSIONAL ENGINEER
LICENSE # 51675



THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.



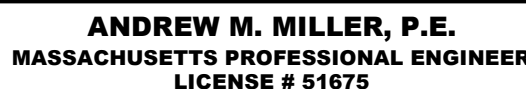
1. THIS PLAN WAS PREPARED USING AN APPROVED SURVEY ENTITLED "PLAN OF LAND, #104 CREEPER HILL ROAD" BY METROWEST ENGINEERING, INC., DATED 8-18-2016.
2. THE PROPOSED FACILITY WILL CAUSE ONLY A "DE MINIMIS" INCREASE IN STORMWATER RUNOFF. THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
3. NO NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
4. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. (THERE IS NO HANDICAP ACCESS REQUIRED).
5. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
6. ELEVATIONS REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
7. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE STREET SIGNS OF ANY TYPE.
8. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
9. EROSION CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF WORK
10. ACCORDING TO THE F.I.R.M. COMMUNITY PANEL #25027C0826E, DATED 07-04-2011, THE PROPOSED SITE IS NOT IN A FLOOD PLAIN.

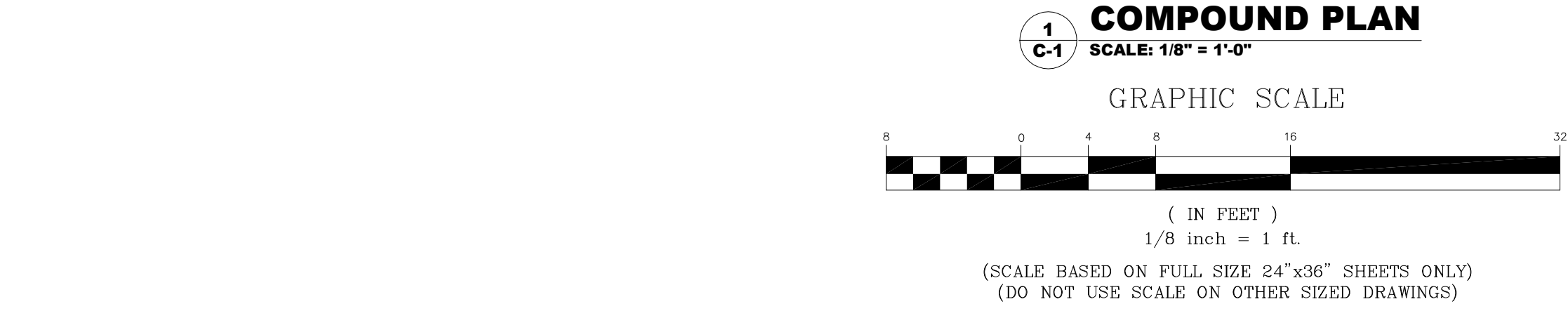
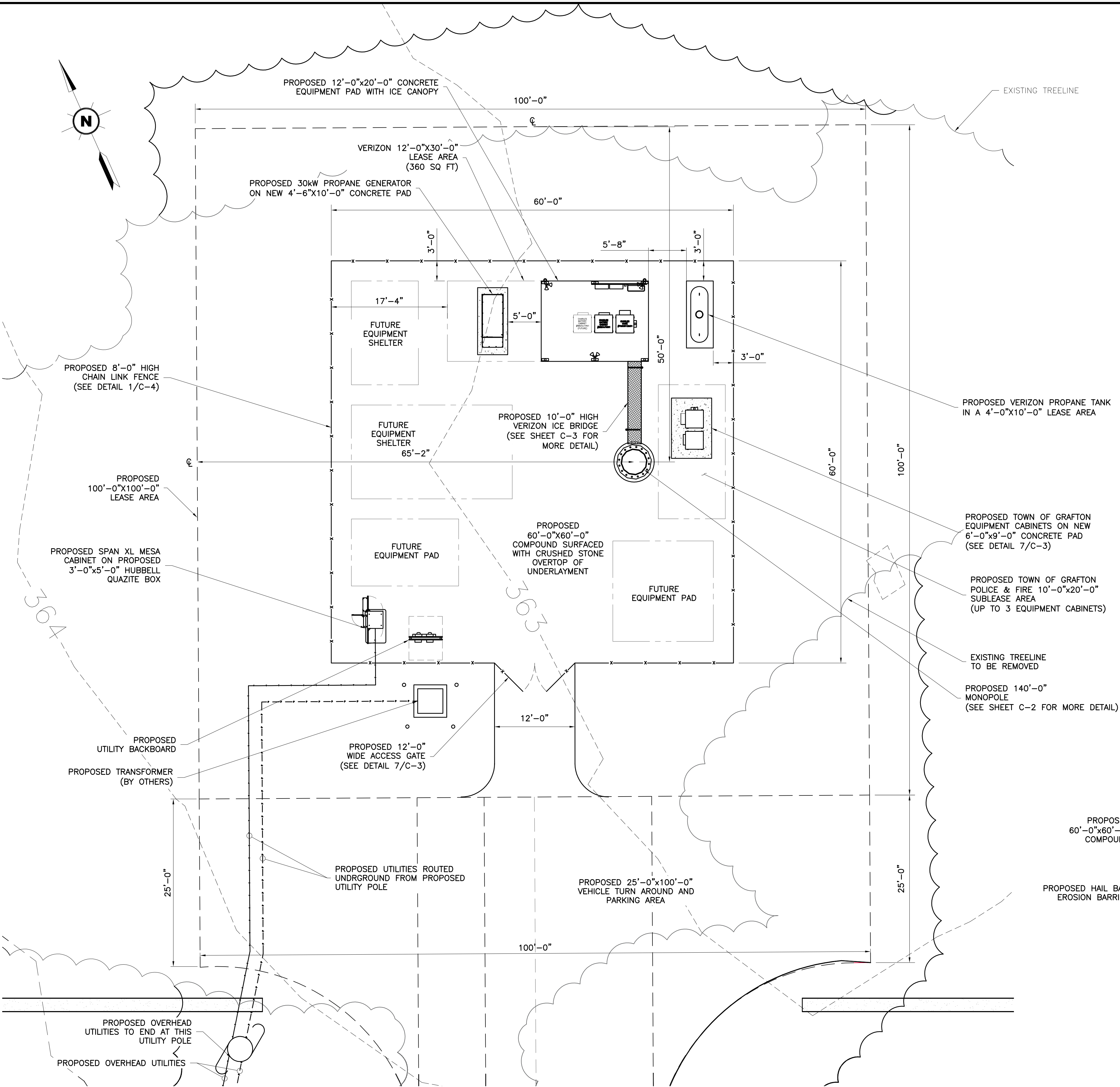
DRAWN BY:	LCW
CHECKED BY:	TA
SCALE:	NOTED
JOB NO:	M880140.00

SITE PLAN

Z-2

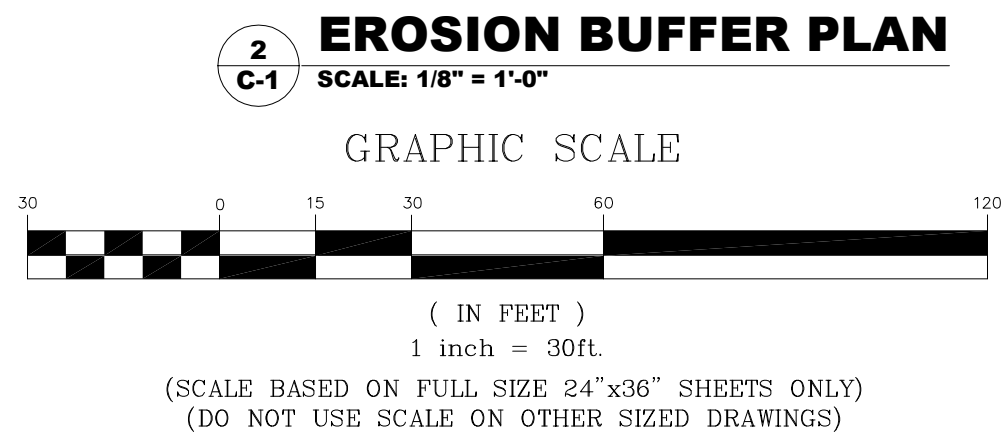
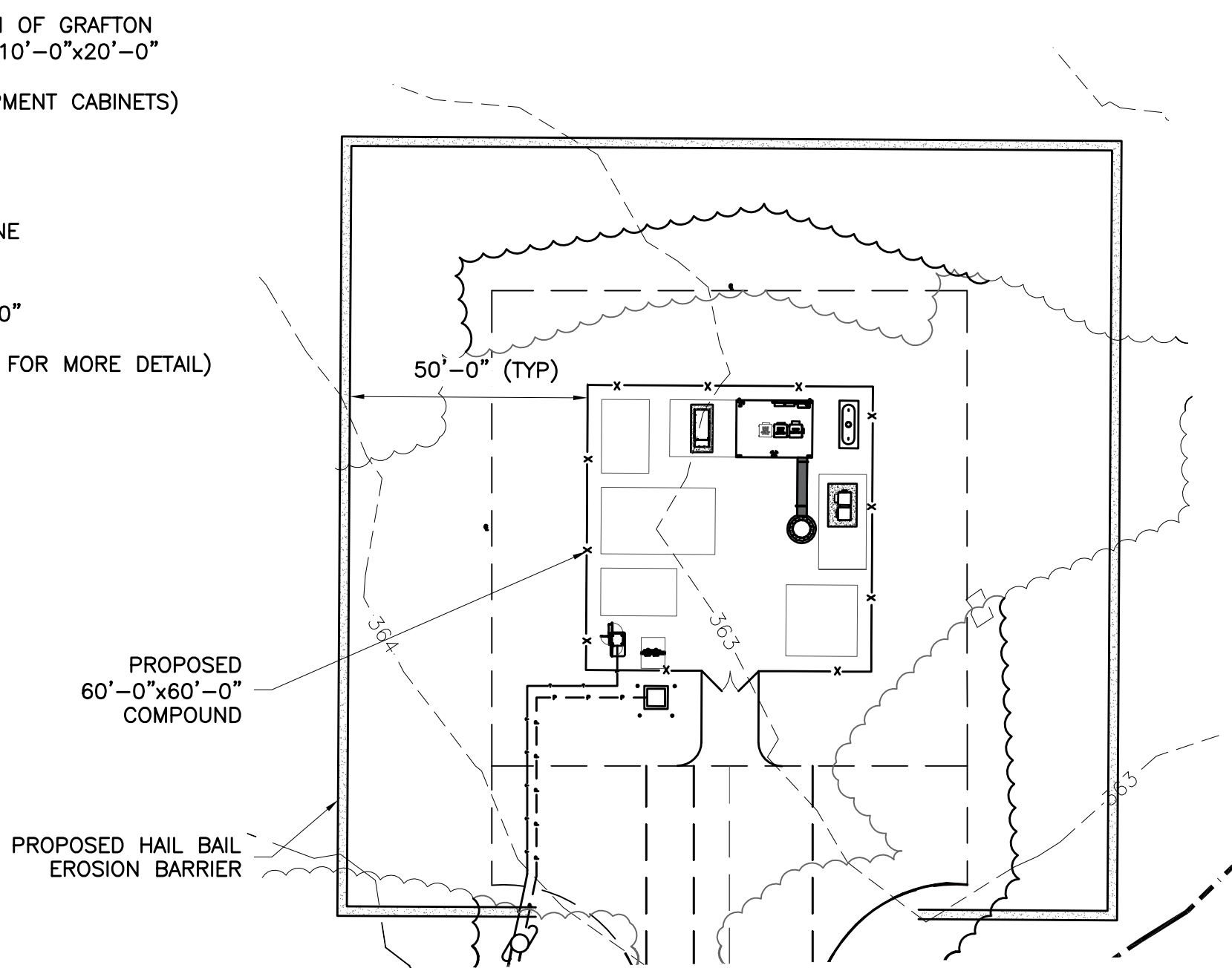
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SITE ADDRESS:
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MASSACHUSETTS 01536
ASSESSOR'S MAP:
MAP 17
LOT 08A
JURISDICTION:
TOWN OF GRAFTON
WORCESTER COUNTY, MA





GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC AUTHORITIES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
3. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
5. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
7. THIS PLAN WAS PREPARED USING AN APPROVED PLAN ENTITLED "CELLULAR SURVEY" BY CLARK SURVEYING, DATED 2-18-2016.
8. THE PROPOSED FACILITY WILL CAUSE ONLY A "DE MINIMIS" INCREASE IN STORMWATER RUNOFF. THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
9. NO NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
10. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (THERE IS NO HANDICAP ACCESS REQUIRED).
11. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
12. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
13. CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTH WITH RF ENGINEERING PRIOR TO INSTALLATION.
14. MOUNTS AND ANTENNAS ARE DESIGNED TO MEET ANSI/TIA-222-G-2 AS PER IBC 2009 REQUIREMENTS.
15. ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
16. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
17. IF ANY PIPING EXISTS BENEATH THE SITE AREA, CONTRACTOR MUST LOCATE IT AND CONTACT OWNERS REPRESENTATIVE.
18. CONSTRUCTION TO COMMENCE UPON COMPLETION OF A PASSING STRUCTURAL ANALYSIS. STRUCTURAL ANALYSIS TO BE PERFORMED BY OTHERS.



PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE
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verticalbridge
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CHECKED BY:		TA	
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DRAWING TITLE:
COMPOUND PLAN

DRAWING SHEET:
C-1

SHEET NUMBER:
4 OF 9

SITE INFORMATION:
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DRAWING TITLE:
ELEVATION

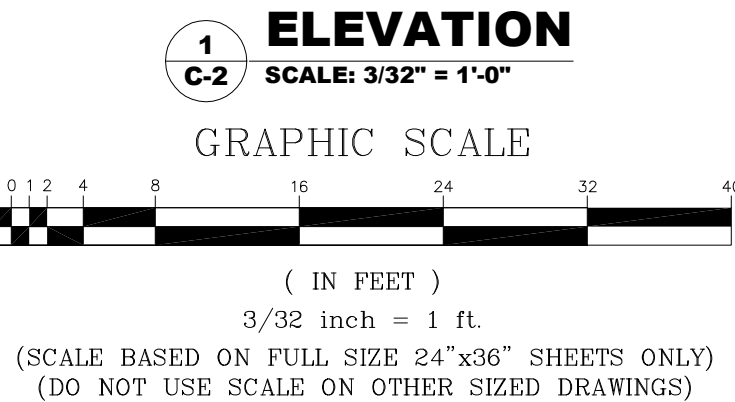
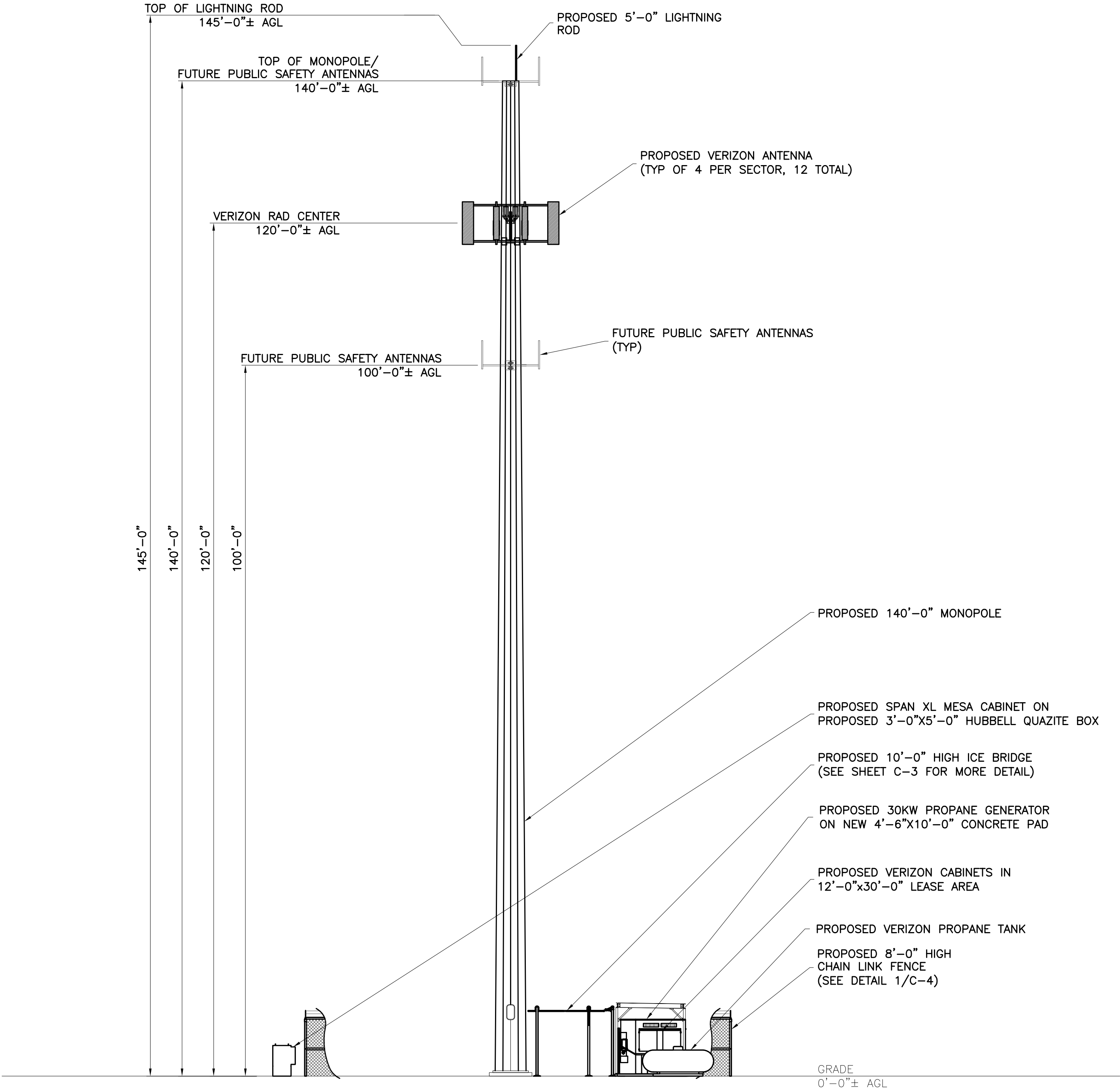
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C-2

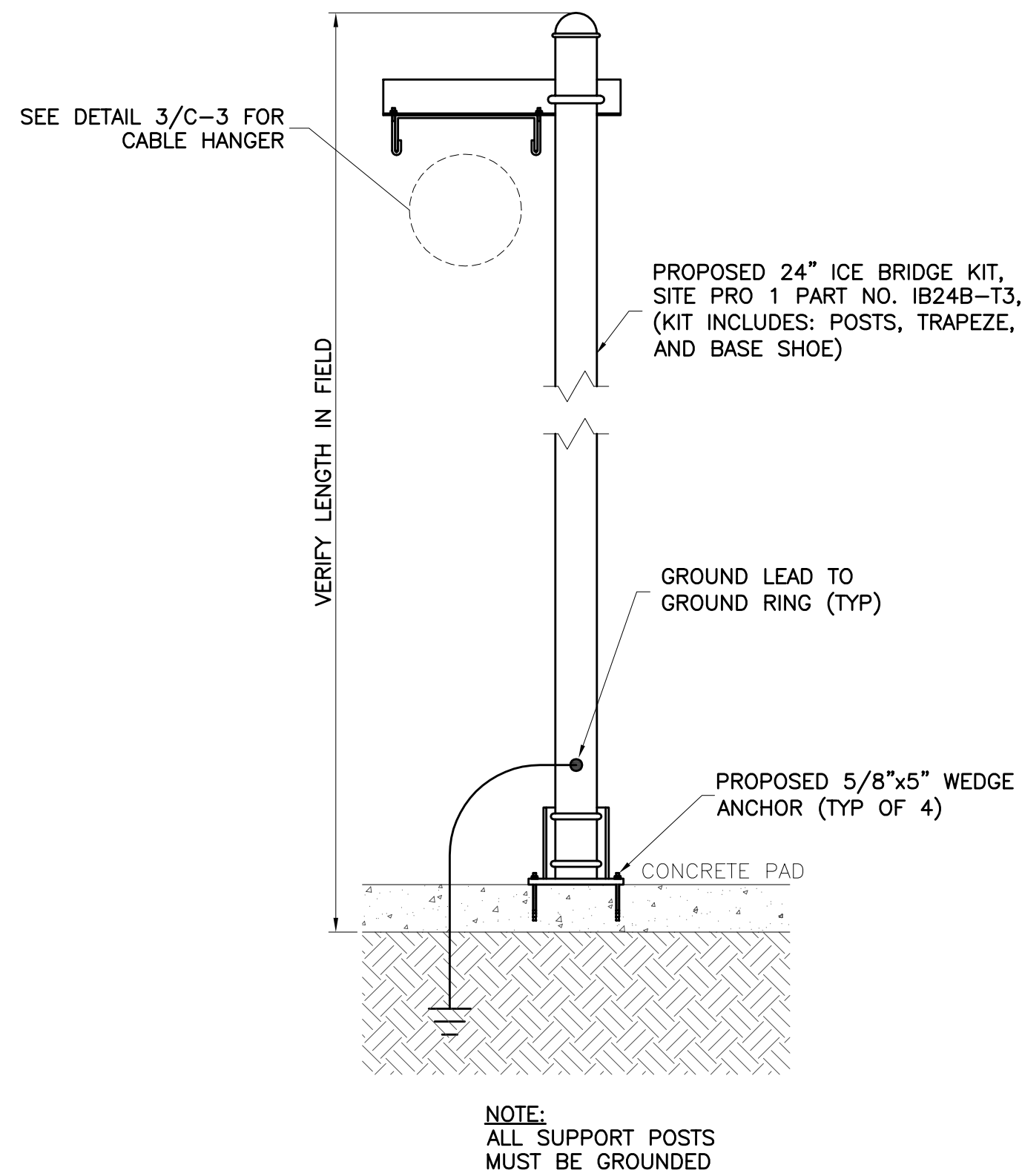
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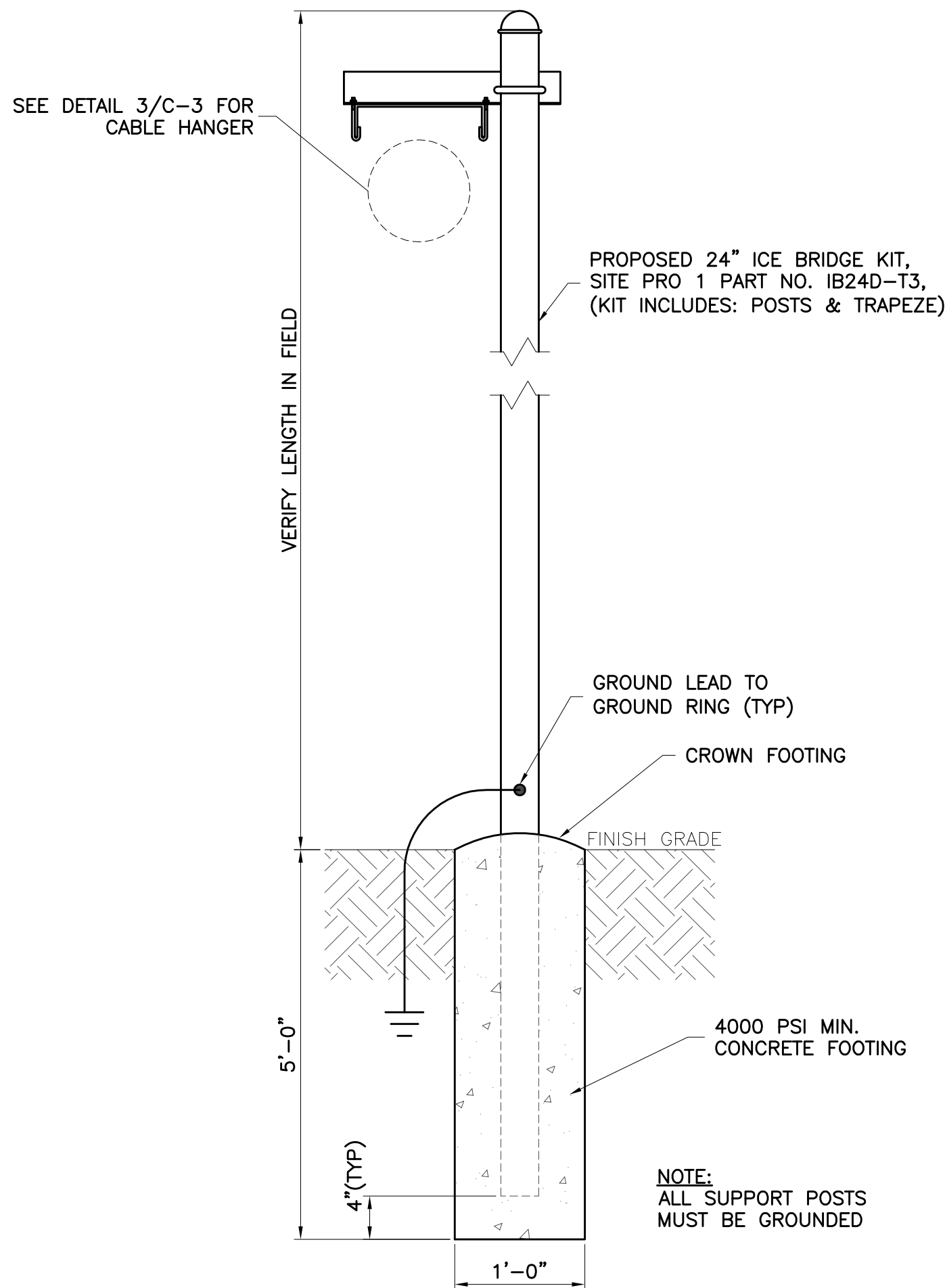
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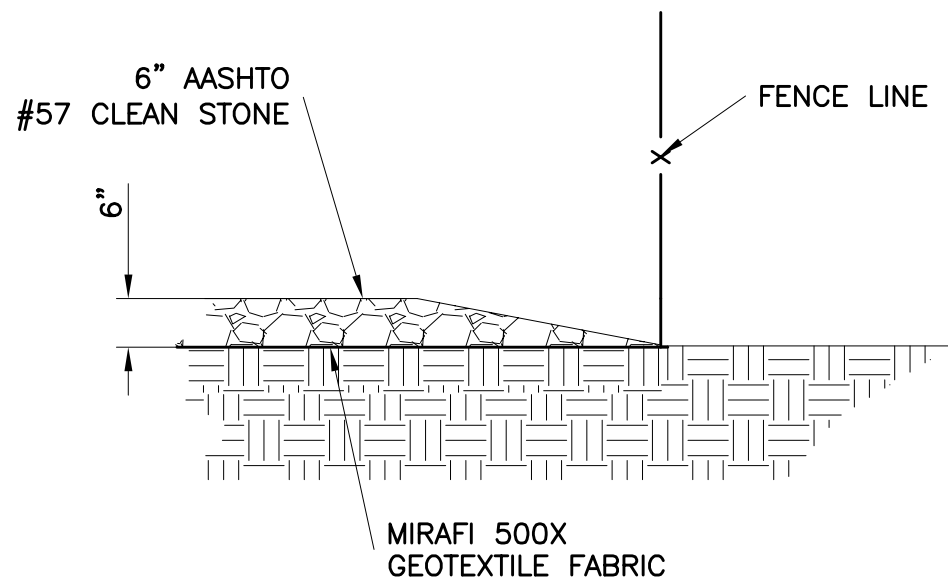
1
C-3
N.T.S.

PROPOSED ICE BRIDGE DETAIL



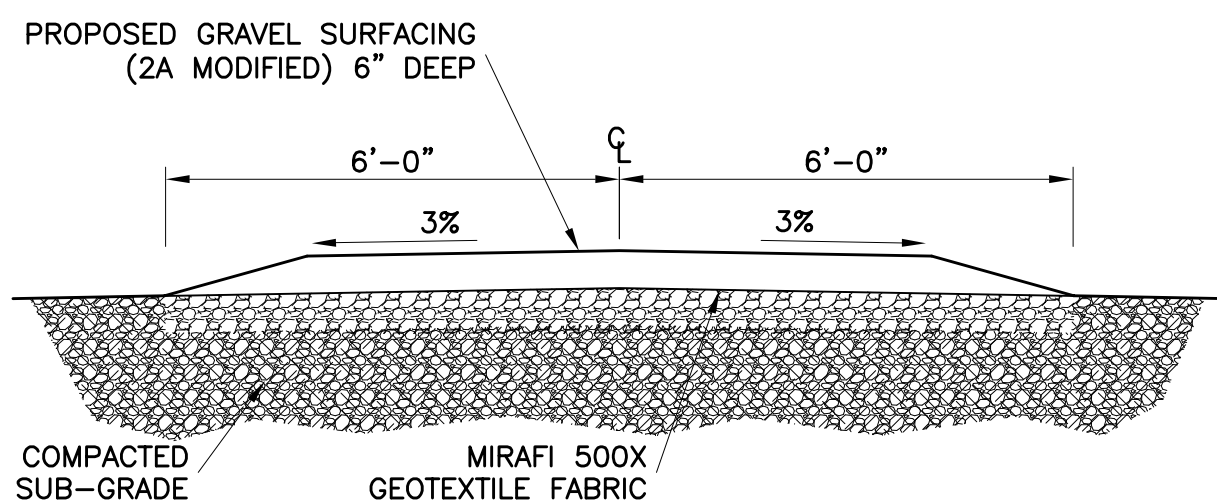
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C-3
N.T.S.

PROPOSED ICE BRIDGE DETAIL



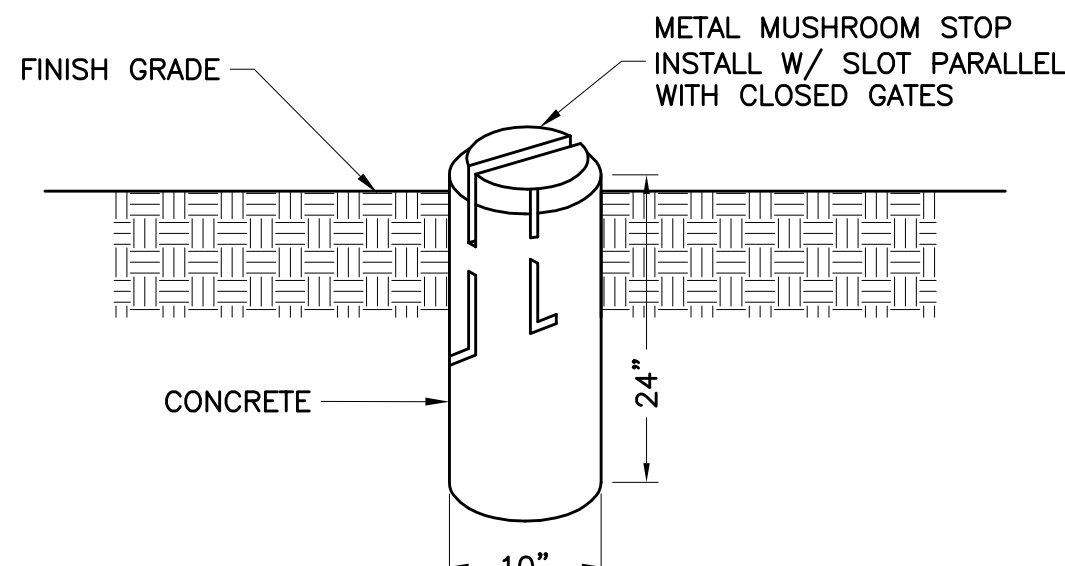
4
C-3
N.T.S.

GRAVEL COMPOUND DETAIL



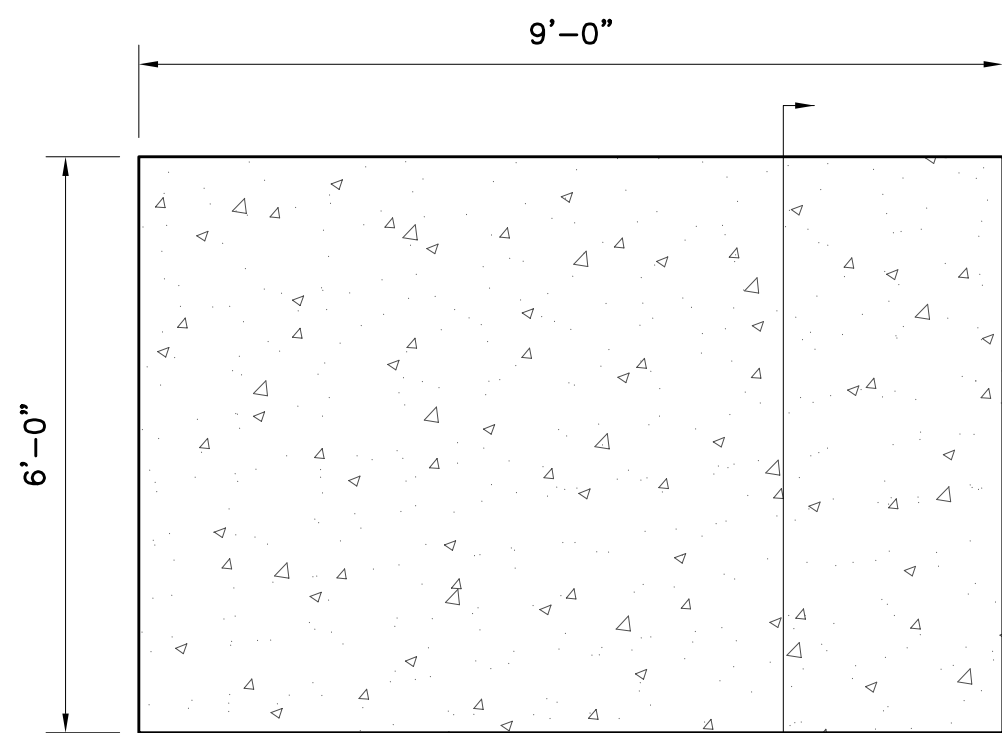
5
C-3
N.T.S.

GRAVEL DRIVEWAY TYPICAL SECTION



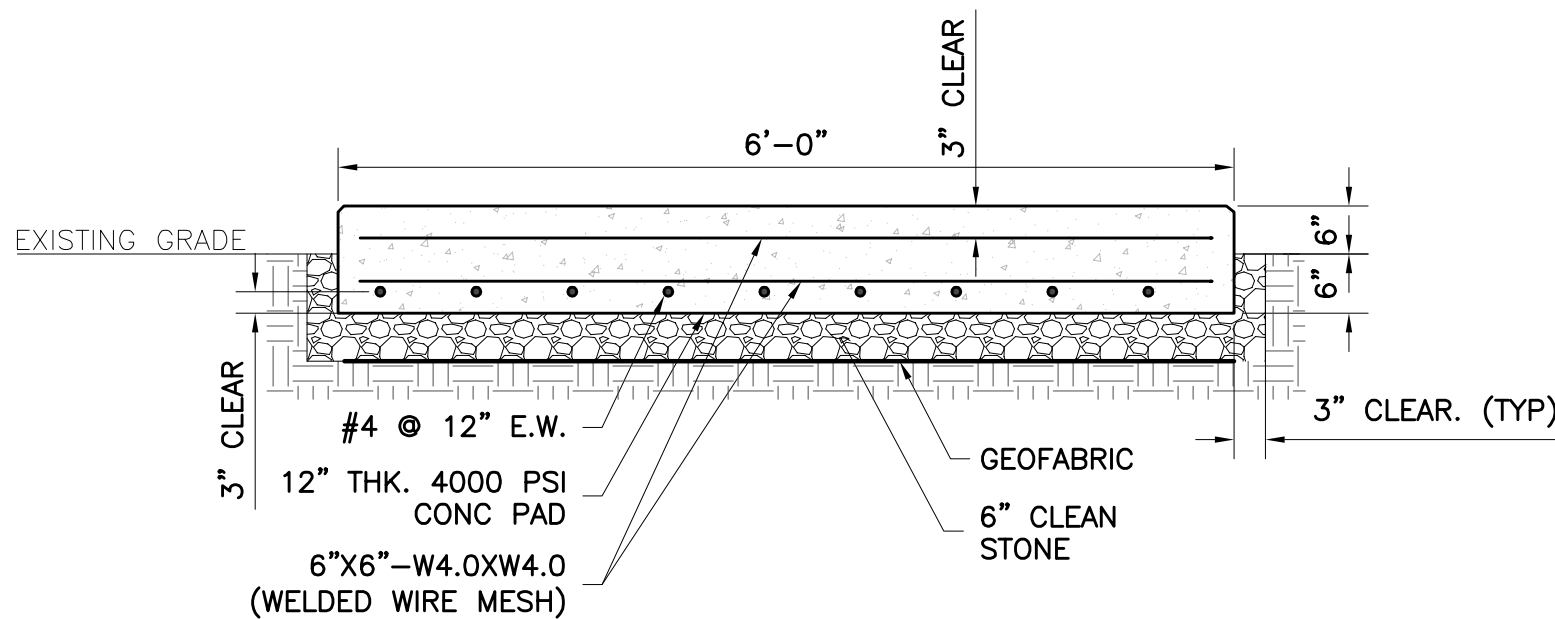
6
C-3
N.T.S.

MUSHROOM STOP DETAIL



7
C-3
N.T.S.

CONCRETE PAD PLAN



8
C-3
N.T.S.

CONCRETE PAD SECTION

NOTES

1. ALL FILL/BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557).
2. ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH (FC') OF 4000 PSI. CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318-11 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-11). REINFORCING STEEL: ASTM A615, GRADE 60, WELDED WIRE FABRIC: ASTM A185. ALL CONCRETE EXPOSED TO THE WEATHER SHALL CONTAIN AN AIR ENTRAINING ADMIXTURE AT A RATE THAT SHALL RESULT IN AN AIR CONTENT OF 6% +/- 1%.
3. PROVIDE 3'-0" #2 AWG COPPER PIGTAIL CAD-WELDED TO LONGEST REBAR MEMBER STUBBED OUT 6" BELOW FINISHED GRADE FOR CONNECTION TO ELECTRICAL GROUNDING SYSTEM.

GENERAL NOTES

1. DESIGN REQUIREMENTS PER INTERNATIONAL BUILDING CODE 2009 AND THE ANSI/TIA-222-G-2 STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED BY FIELD MEASUREMENT AND FROM THE EXISTING STRUCTURAL DRAWINGS. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH CONSTRUCTION.
3. THE GENERAL CONTRACTOR AND HIS CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK.
4. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE AISC CODE FOR STANDARD PRACTICE.
5. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A992. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
6. WELDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS). STRUCTURAL WELDING CODE - STEEL WELD ELECTRODES SHALL BE E70XX.
7. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A307 OR ASTM A36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8 INCH MIN. DIAMETER BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS UNLESS OTHERWISE NOTED.
8. LUMBER (IF APPLICABLE) SHALL COMPLY WITH THE REQUIREMENTS OF AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
9. ALL COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
10. THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL MUNICIPAL CONTRACTOR BUSINESS LICENSES.

verticalbridge

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SCHEDULE OF REVISIONS			
8	01-23-17	LCW	FINAL
7	01-16-17	JMC	CLIENT REVISIONS
6	12-19-16	JMC	CLIENT REVISIONS
5	10-03-16	LCW	FINAL ZDs
4	09-28-16	LCW	FINAL
REV NO.	DATE	DRAFTER	DESCRIPTION OF CHANGES

DRAWN BY:	LCW
CHECKED BY:	TA
SCALE:	NOTED
JOB NO:	M880140.00

DRAWING TITLE:

**CONSTRUCTION
DETAILS**

DRAWING SHEET:

C-3

SHEET NUMBER:

6 OF 9

SITE INFORMATION:

SITE NAME:
**US-MA-5025
GRAFTON**

SITE ADDRESS:
**104 CREEPER HILL ROAD
GRAFTON,
MASSACHUSETTS 01536**

ASSESSOR'S MAP:
**MAP 17
LOT 08A**

JURISDICTION:
**TOWN OF GRAFTON
WORCESTER COUNTY, MA**

ANDREW M. MILLER, P.E.
MASSACHUSETTS PROFESSIONAL ENGINEER
LICENSE # 51675

ELECTRICAL NOTES:

1.

CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTORS FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2.

LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
3.

THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
4.

PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
5.

ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC CHAPTER 9, TABLE #2. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
6.

ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
7.

ALL WIRE SHALL BE TYPE THHN/THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC STRANDED) 75°C (167°F), 98% CONDUCTIVITY, MINIMUM #12.
8.

ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY, OR APPROVED EQUAL.
9.

ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
10.

CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
11.

ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN NOT HAND WRITTEN.
12.

INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, STARTERS, AND EQUIPMENT CABINETS.
13.

THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS, DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
14.

ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS.)
15.

ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.
16.

PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.
17.

ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS). LOCATION OF ALL OUTLET, BOXES, ETC., AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.

ELECTRICAL & GROUND SYMBOLS:

- GROUND ROD WITH ACCESS
- XIT GROUND ROD
- 5/8"x10'-0" GALVANIZED GROUND ROD
- DISCONNECT SWITCH
- METER ON METER/BREAKER UNIT
- CIRCUIT BREAKER
- GENERATOR
- MECHANICAL TYPE CONNECTION
- CADWELD TYPE CONNECTION
- GROUNDING WIRE
- CB INTERLOCKING MECHANISM
- POWER WIRE/CONDUIT
- TELCO FIBER/CONDUIT

ABBREVIATIONS:

- AWG

AMERICAN WIRE GAUGE
- BCTW

BARE COPPER TINNED WIRE
- GPS

GLOBAL POSITIONING SYSTEM
- PCS

PERSONAL COMMUNICATION SYSTEM
- PPC

POWER PROTECTION CABINET
- PRC

PRIMARY RADIO CABINET
- RWY

RACEWAY
- TYP

TYPICAL
- RGS

RIGID GALVANIZED STEEL
- EMT

ELECTRICAL METALLIC TUBING
- DWG

DRAWING
- IGR

INTERIOR GROUND RING (HALO)
- ACCA

ANTENNA CABLE COVER ASSEMBLY
- MIGB

MASTER ISOLATED GROUND BAR
- CIBGE

COAX ISOLATED GROUND BAR EXTERNAL
- BTS

BASE TRANSMISSION SYSTEM
- GEN

GENERATOR
- GR

GROWTH
- SICW

STRANDED INSULATED COPPER WIRE



DECISION and CONDITIONS

At their meeting of November 14, 2016, after due consideration of the exhibits submitted and the entire record of proceedings introduced and accepted in this matter, the Grafton Planning Board (motion by Mr. Robbins, seconded by Mrs. Hassinger) voted 5-0 to GRANT the Application with the following Conditions:

A. Standard Conditions

1. This Special Permit and Site Plan Approval is specifically granted for a 140 foot high monopole, installation of one array of antenna and associated facilities and equipment as described within the EXHIBITS and FINDINGS of this Decision (EXHIBITS #1 and #17).. In setting the 140 foot height the Planning Board specifically notes FINDINGS #F9 and #F10 and EXHIBITS #9, #29, #30. By roll call vote: Lovvorn - AYE; R. Hassinger - AYE; Robbins - AYE; L. Hassinger - AYE; Scully - AYE.
2. This Decision does not authorize the installation of any wireless communications antennae or equipment associated therewith by any other wireless communications vendor other than what is approved for the Applicant. Installation of equipment associated with emergency services for the Town of Grafton as identified by the Police and Fire Departments may be installed at any time as agreed upon by the Applicant and the Town of Grafton. (See FINDING #F14) The Owner will coordinate with the Fire and Police Departments with regards to the installation of equipment.
3. The work authorized by this Special Permit and Site Plan Approval shall be solely for the purposes noted within Condition #1 of this Decision. Changes to plan presented in this Application may be made only upon authorization from the Planning Board. Such authorization shall only be granted provided the Board finds that any change requested by the Applicant is not substantially different than the plan presented within the EXHIBITS of this Decision, and is consistent with the intent and purpose of this Decision. Requests for such change(s) shall be submitted in writing to the Planning Board.
4. Prior to the recording of this Decision and issuance of any approvals for commencement of work, all outstanding peer review and court reporting fees shall be paid by the Applicant through the Planning Department.
5. No additional lighting for the equipment area is authorized beyond the single light identified in the Application. The proposed and approved light is to be utilized only for service visits and must be kept turned off at all other times (see FINDING #F21, EXHIBIT #1).
6. Failure to comply with the requirements of Section 5.8 of the Grafton Zoning By-law (or as modified by this Decision), as well as all applicable Federal, State and local regulations, shall cause this Special Permit to be invalid.
7. As per Grafton Zoning By-law § 5.8.9, if the facility is abandoned or no longer operable, it shall be removed within six (6) months of its abandonment.
8. Signage for, and associated with, the use authorized by this Decision shall be installed in accordance with, and conform to, the Town of Grafton Zoning By-law. This Decision shall not be construed as approving or authorizing any such signage.
9. In accordance with Section 1.5.8 of the ZBL, this Special Permit and Site Plan Approval shall lapse within one (1) year from the date of the expiration of the appeal period if substantial use, or construction, has not been commenced except in accordance with the law. Any request for an extension of said period of validity shall be considered a Modification of this Special Permit and Site Plan Approval, and such request shall be filed and reviewed in accordance with the procedure specified in Section 1.5 of the ZBL.
10. This Special Permit and Site Plan Approval shall not take effect until the Decision has been recorded at the Worcester District Registry of Deeds (WDRD) and provided the Planning Board and the Building Department with a copy of such recording, including the WDRD Book and Page Number and/or Instrument Numbers.
11. By recording this Special Permit and Site Plan Approval Decision at the Worcester District Registry of Deeds, the Applicant agrees to and accepts the conditions set forth in this Special Permit and Site Plan Approval Decision.

B. Conditions to be Met Prior to the Start of Construction

1. Prior to the issuance of the a building permit, the Applicant shall submit a final plan set, in a format eligible for recording at the Registry of Deeds, to be reviewed and approved by the Planning Board or its Agent to include:
 - a. Corrections to the Plan Set as outlined in the last Graves Engineering Peer Review Letter and noted in FINDING #F20. (See also EXHIBIT #28).
 - b. Corrections to the Plan Set to better identify the transition from above ground to below ground utility connection (see FINDING #F13).
 - c. The Conditions set forth in this Decision shall be inscribed on a sheet of the Plans suitable for recording at the Worcester District Registry of Deeds. The full plan set shall be recorded at the Worcester District Registry of Deeds and the Applicant shall provide Planning Board and the Building Department with a copy of such recording information, including the WDRD Plan Book and Plan Numbers.
 - d. Additional details shall be added to require that site fencing is to be clearly and adequately posted with “No Trespassing” signage. The Applicant will submit a “No Trespass” letter to the Grafton Police Department.
2. Prior to the commencement of work, the Planning Board shall be provided with the following:
 - a. Five (5) full size, 24" x 36", endorsed and recorded plan sets, one of which shall be sent directly to the Town's peer review consulting engineer.
 - b. An electronic copy of the endorsed and recorded plan set. The electronic copy shall be in a “PDF” compatible format.
3. Prior to any clearing of the site the Applicant shall submit a vegetation clearing plan to indicate the work associated with constructing the facility compound and the access drive to the site whether it is the existing gravel drive or the new proposed access drive along the western portion of the site. The site shall be inspected by the Planning Board or its designee to review the delineated limits of work prior to the commencement of any work. The Applicant shall receive written notice from the Planning Board and / or its agent of final approval to proceed prior to commencement of work.
2. Prior to the issuance of a Building Permit for the facility, the Applicant shall submit a bond (in an amount to be determined by the Planning Board and / or its Agent and agreed upon by the Applicant), or other arrangement satisfactory to the Board, to cover any and all expenses associated with any work resulting from the enforcement of Section 5.8.9 of the ZBL (noted in Condition #A7 of this Decision).

C. Conditions to be Met During Construction

1. Hours of construction and earthwork proposed shall only occur Monday through Friday between the hours of 7:00 a.m. and 5:00 p.m. and Saturdays from 8:00 a.m. and 5:00 p.m. There shall be no construction activity on Sundays or state and federal holidays.
2. All grading and construction shall be performed in accordance with the approved Plans, as well as all applicable Federal, State and Local regulations, and shall be accomplished so as not to discharge any pollutants or siltation into waterways or resource areas during construction, and after completion, from the site and its associated improvements.



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JOB NO:		M880140.00	

DRAWING TITLE:

**GENERAL
NOTES**

DRAWING SHEET:


GN-1

SHEET NUMBER:

9 OF 9

SITE INFORMATION:

**SITE NAME:
US-MA-5025
GRAFTON
SITE ADDRESS:
104 CREEPER HILL ROAD
GRAFTON,
MASSACHUSETTS 01536
ASSESSOR'S MAP:
MAP 17
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